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- ☐ 1. **Towards real-time parallel processing of spatial queries**
Haibo Hu; Manli Zhu; Dik-Lun Lee;
Parallel Processing, 2003. Proceedings. 2003 International Conference on
2003 Page(s):565 - 572
Digital Object Identifier 10.1109/ICPP.2003.1240624
[AbstractPlus](#) | Full Text: [PDF\(447 KB\)](#) IEEE CNF
- ☐ 2. **Vectorizing and querying large XML repositories**
Buneman, P.; Choi, B.; Fan, W.; Hutchison, R.; Mann, R.; Viglas, S.D.;
Data Engineering, 2005. ICDE 2005. Proceedings. 21st International Conferen
5-8 April 2005 Page(s):261 - 272
Digital Object Identifier 10.1109/ICDE.2005.150
[AbstractPlus](#) | Full Text: [PDF\(264 KB\)](#) IEEE CNF
- ☐ 3. **An adaptive protocol for efficient support of range queries in DHT-based**
Gao, J.; Steenkiste, P.;
Network Protocols, 2004. ICNP 2004. Proceedings of the 12th IEEE Internatio
2004 Page(s):239 - 250
Digital Object Identifier 10.1109/ICNP.2004.1348114
[AbstractPlus](#) | Full Text: [PDF\(521 KB\)](#) IEEE CNF
- ☐ 4. **Towards optimal clustering for approximate similarity searching**
Tuncel, E.; Rose, K.;
Multimedia and Expo, 2002. ICME '02. Proceedings. 2002 IEEE International C
Volume 2, 26-29 Aug. 2002 Page(s):497 - 500 vol.2
Digital Object Identifier 10.1109/ICME.2002.1035655
[AbstractPlus](#) | Full Text: [PDF\(450 KB\)](#) IEEE CNF
- ☐ 5. **Optimization for queries with holistic functions**
Chiou, A.S.; Sieg, J.C.;
Database Systems for Advanced Applications, 2001. Proceedings. Seventh Int
Conference on
18-21 April 2001 Page(s):327 - 334
Digital Object Identifier 10.1109/DASFAA.2001.916394
[AbstractPlus](#) | Full Text: [PDF\(564 KB\)](#) IEEE CNF
- ☐ 6. **Query processing and optimization in temporal object-oriented database:**

Wang, L.; Wing, M.; Davis, C.; Revell, N.;
Database and Expert Systems Applications, 1997. Proceedings., Eighth Intern:
on
1-2 Sept. 1997 Page(s):474 - 481
Digital Object Identifier 10.1109/DEXA.1997.617334
[AbstractPlus](#) | Full Text: [PDF](#)(680 KB) IEEE CNF

- ☐ **7. Outerjoin optimization in multidatabase systems**
Chen, A.L.P.;
Databases in Parallel and Distributed Systems, 1990, Proceedings. Second Int
Symposium on
2-4 July 1990 Page(s):211 - 218
Digital Object Identifier 10.1109/DPDS.1990.113712
[AbstractPlus](#) | Full Text: [PDF](#)(576 KB) IEEE CNF
- ☐ **8. Optimizing main-memory join on modern hardware**
Manegold, S.; Boncz, P.; Kersten, M.;
Knowledge and Data Engineering, IEEE Transactions on
Volume 14, Issue 4, July-Aug. 2002 Page(s):709 - 730
Digital Object Identifier 10.1109/TKDE.2002.1019210
[AbstractPlus](#) | [References](#) | Full Text: [PDF](#)(3938 KB) IEEE JNL

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Select Article Information

- ☐ 1. **A query evaluation strategy for deductive databases with presence of neq**
HLPN
 Barkaoui, K.; Majzi, Y.;
 Systems, Man, and Cybernetics, 1997. 'Computational Cybernetics and Simul:
 International Conference on
 Volume 3, 12-15 Oct. 1997 Page(s):2386 - 2391 vol.3
 Digital Object Identifier 10.1109/ICSMC.1997.635284
[AbstractPlus](#) | Full Text: [PDF](#)(536 KB) IEEE CNF
- ☐ 2. **The query clustering problem: a set partitioning approach**
 Gopal, R.D.; Ramesh, R.;
 Knowledge and Data Engineering, IEEE Transactions on
 Volume 7, Issue 6, Dec. 1995 Page(s):885 - 899
 Digital Object Identifier 10.1109/69.476495
[AbstractPlus](#) | [References](#) | Full Text: [PDF](#)(1648 KB) IEEE JNL
- ☐ 3. **XML views as integrity constraints and their use in query translation**
 Krishnamurthy, R.; Kaushik, R.; Naughton, J.F.;
 Data Engineering, 2005. ICDE 2005. Proceedings. 21st International Conferen
 5-8 April 2005 Page(s):693 - 704
 Digital Object Identifier 10.1109/ICDE.2005.157
[AbstractPlus](#) | Full Text: [PDF](#)(248 KB) IEEE CNF
- ☐ 4. **User defined aggregates in object-relational systems**
 Wang, H.; Zaniolo, C.;
 Data Engineering, 2000. Proceedings. 16th International Conference on
 29 Feb.-3 March 2000 Page(s):135 - 144
 Digital Object Identifier 10.1109/ICDE.2000.839400
[AbstractPlus](#) | Full Text: [PDF](#)(116 KB) IEEE CNF
- ☐ 5. **Query planning with limited source capabilities**
 Li, C.; Chang, E.;
 Data Engineering, 2000. Proceedings. 16th International Conference on
 29 Feb.-3 March 2000 Page(s):401 - 412
 Digital Object Identifier 10.1109/ICDE.2000.839440
[AbstractPlus](#) | Full Text: [PDF](#)(192 KB) IEEE CNF

- ☐ **6. Evaluation and optimization of the LIVING IN A LATTICE rule language**
Riedel, H.; Heuer, A.;
Data Engineering, 1996. Proceedings of the Twelfth International Conference on
26 Feb.-1 March 1996 Page(s):318 - 325
Digital Object Identifier 10.1109/ICDE.1996.492179
[AbstractPlus](#) | Full Text: [PDF\(848 KB\)](#) IEEE CNF

- ☐ **7. A functional clustering method for optimal access to complex domains in DBMS**
Cheiney, J.; Kiernan, G.;
Data Engineering, 1988. Proceedings. Fourth International Conference on
1-5 Feb. 1988 Page(s):394 - 401
Digital Object Identifier 10.1109/ICDE.1988.105483
[AbstractPlus](#) | Full Text: [PDF\(616 KB\)](#) IEEE CNF

- ☐ **8. Dynamic three-dimensional linear programming**
Eppstein, D.;
Foundations of Computer Science, 1991. Proceedings., 32nd Annual Symposium
1-4 Oct. 1991 Page(s):488 - 494
Digital Object Identifier 10.1109/SFCS.1991.185410
[AbstractPlus](#) | Full Text: [PDF\(592 KB\)](#) IEEE CNF

- ☐ **9. A model for optimizing deductive and object-oriented DB requests**
Cheiney, J.-P.; Lancelotte, R.S.G.;
Data Engineering, 1992. Proceedings. Eighth International Conference on
2-3 Feb. 1992 Page(s):385 - 392
Digital Object Identifier 10.1109/ICDE.1992.213171
[AbstractPlus](#) | Full Text: [PDF\(652 KB\)](#) IEEE CNF

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Select Article Information

- ☐ 1. **Integrating K-Means Clustering with a Relational DBMS Using SQL**
 Ordonez, C.;
 Knowledge and Data Engineering, IEEE Transactions on
 Volume 18, Issue 2, Feb. 2006 Page(s):188 - 201
 Digital Object Identifier 10.1109/TKDE.2006.31
[AbstractPlus](#) | Full Text: [PDF\(800 KB\)](#) IEEE JNL
- ☐ 2. **Optimising data processing in network performance monitoring systems**
 Bashir, O.; Parish, D.; Sandford, M.; Phillips, I.;
 Communications, IEE Proceedings-
 Volume 152, Issue 5, 7 Oct. 2005 Page(s):633 - 642
 Digital Object Identifier 10.1049/ip-com:20045208
[AbstractPlus](#) | Full Text: [PDF\(264 KB\)](#) IEE JNL
- ☐ 3. **Tailor-made exploratory visualization for statistics Sweden**
 Feldt, N.; Pettersson, H.; Johansson, J.; Jern, M.;
 Coordinated and Multiple Views in Exploratory Visualization, 2005. (CMV 2005
 Third International Conference on
 5 July 2005 Page(s):133 - 142
 Digital Object Identifier 10.1109/CMV.2005.19
[AbstractPlus](#) | Full Text: [PDF\(1296 KB\)](#) IEEE CNF
- ☐ 4. **Progressive distributed top-k retrieval in peer-to-peer networks**
 Balke, W.-T.; Nejdl, W.; Siberski, W.; Thaden, U.;
 Data Engineering, 2005. ICDE 2005. Proceedings. 21st International Conferen
 5-8 April 2005 Page(s):174 - 185
 Digital Object Identifier 10.1109/ICDE.2005.115
[AbstractPlus](#) | Full Text: [PDF\(192 KB\)](#) IEEE CNF
- ☐ 5. **Multimodal query support in database servers**
 O'Connell, W.; Au, G.; Schrader, D.;
 Computer Design: VLSI in Computers and Processors, 1996. ICCD '96. Proce
 IEEE International Conference on
 7-9 Oct. 1996 Page(s):86 - 92
 Digital Object Identifier 10.1109/ICCD.1996.563538
[AbstractPlus](#) | Full Text: [PDF\(752 KB\)](#) IEEE CNF

☐ **6. Evaluation of peer-to-peer network content discovery techniques over mobile networks**

Oliveira, L.B.; Siqueira, I.G.; Macedo, D.F.; Loureiro, A.A.F.; Hao Chi Wong; N. World of Wireless Mobile and Multimedia Networks, 2005. WoWMoM 2005. Si: International Symposium on a
13-16 June 2005 Page(s):51 - 56

Digital Object Identifier 10.1109/WOWMOM.2005.40

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- ☐ 1. **Venn sampling: a novel prediction technique for moving objects**
Yufei Tao; Dimitris Papadias; Jian Zhai; Qing Li;
Data Engineering, 2005. ICDE 2005. Proceedings. 21st International Conferen
5-8 April 2005 Page(s):680 - 691
Digital Object Identifier 10.1109/ICDE.2005.151
[AbstractPlus](#) | Full Text: [PDF](#)(280 KB) IEEE CNF
- ☐ 2. **Accurate estimation of the cost of spatial selections**
Aboulhaga, A.; Naughton, J.F.;
Data Engineering, 2000. Proceedings. 16th International Conference on
29 Feb.-3 March 2000 Page(s):123 - 134
Digital Object Identifier 10.1109/ICDE.2000.839399
[AbstractPlus](#) | Full Text: [PDF](#)(460 KB) IEEE CNF
- ☐ 3. **Optimizing global query processing plans in heterogeneous and distribut
multidatabase systems**
Getta, J.R.; Sedighi, S.M.;
Database and Expert Systems Applications, 1999. Proceedings. Tenth Interna
on
1-3 Sept. 1999 Page(s):12 - 16
Digital Object Identifier 10.1109/DEXA.1999.795117
[AbstractPlus](#) | Full Text: [PDF](#)(180 KB) IEEE CNF
- ☐ 4. **Automatic feasibility/performance estimation of mixed-signal circuits bas
specifications**
Kyung-Im Son; Heung-Joon Park; Soma, M.;
ASIC Conference and Exhibit, 1997. Proceedings., Tenth Annual IEEE Interna
7-10 Sept. 1997 Page(s):115 - 119
Digital Object Identifier 10.1109/ASIC.1997.616989
[AbstractPlus](#) | Full Text: [PDF](#)(444 KB) IEEE CNF
- ☐ 5. **Parallel optimization of large join queries with set operators and aggrega
environment supporting pipeline**
Spiliopoulou, M.; Hatzopoulos, M.; Cotronis, Y.;
Knowledge and Data Engineering, IEEE Transactions on
Volume 8, Issue 3, June 1996 Page(s):429 - 445
Digital Object Identifier 10.1109/69.506710
[AbstractPlus](#) | [References](#) | Full Text: [PDF](#)(1580 KB) IEEE JNL

- ☐ 6. **Efficient decoding and training procedures for utterance verification in continuous speech recognition**
Lleida, E.; Rose, R.C.;
Acoustics, Speech, and Signal Processing, 1996. ICASSP-96. Conference Proceedings. IEEE International Conference on
Volume 1, 7-10 May 1996 Page(s):507 - 510 vol. 1
Digital Object Identifier 10.1109/ICASSP.1996.541144
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IEEE CNF IEEE Conference Proceeding

IEE CNF IEE Conference Proceeding

IEEE STD IEEE Standard

- ☐ 1. Semantic query optimization for query plans of heterogeneous multidata
Chun-Nan Hsu; Knoblock, C.A.;
Knowledge and Data Engineering, IEEE Transactions on
Volume 12, Issue 6, Nov.-Dec. 2000 Page(s):959 - 978
Digital Object Identifier 10.1109/69.895804

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IEEE CNF IEEE Conference Proceeding

IEE CNF IEE Conference Proceeding

IEEE STD IEEE Standard

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- ☐ 1. **Optimizing queries with foreign functions in a distributed environment**
Tsai, P.S.M.; Chen, A.L.P.;
Knowledge and Data Engineering, IEEE Transactions on
Volume 14, Issue 4, July-Aug. 2002 Page(s):809 - 824
Digital Object Identifier 10.1109/TKDE.2002.1019215
[AbstractPlus](#) | [References](#) | Full Text: [PDF](#)(457 KB) IEEE JNL
- ☐ 2. **Design and implementation of a semantic query optimizer**
Shenoy, S.T.; Ozsoyoglu, Z.M.;
Knowledge and Data Engineering, IEEE Transactions on
Volume 1, Issue 3, Sept. 1989 Page(s):344 - 361
Digital Object Identifier 10.1109/69.87980
[AbstractPlus](#) | Full Text: [PDF](#)(1776 KB) IEEE JNL
- ☐ 3. **Optimizing top-k selection queries over multimedia repositories**
Chaudhuri, S.; Gravano, L.; Marian, A.;
Knowledge and Data Engineering, IEEE Transactions on
Volume 16, Issue 8, Aug. 2004 Page(s):992 - 1009
Digital Object Identifier 10.1109/TKDE.2004.30
[AbstractPlus](#) | [References](#) | Full Text: [PDF](#)(736 KB) IEEE JNL
- ☐ 4. **Rewriting-based optimization for XQuery transformational queries**
Grinev, M.; Pleshachkov, M.;
Database Engineering and Application Symposium, 2005. IDEAS 2005. 9th Int
25-27 July 2005 Page(s):163 - 174
Digital Object Identifier 10.1109/IDEAS.2005.49
[AbstractPlus](#) | Full Text: [PDF](#)(152 KB) IEEE CNF
- ☐ 5. **Progressive distributed top-k retrieval in peer-to-peer networks**
Balke, W.-T.; Nejdl, W.; Siberski, W.; Thaden, U.;
Data Engineering, 2005. ICDE 2005. Proceedings. 21st International Conferen
5-8 April 2005 Page(s):174 - 185
Digital Object Identifier 10.1109/ICDE.2005.115
[AbstractPlus](#) | Full Text: [PDF](#)(192 KB) IEEE CNF
- ☐ 6. **Efficient evaluation of queries with mining predicates**
Chaudhuri, S.; Narasayya, V.; Sarawagi, S.;

Data Engineering, 2002. Proceedings. 18th International Conference on
26 Feb.-1 March 2002 Page(s):529 - 540
Digital Object Identifier 10.1109/ICDE.2002.994772
[AbstractPlus](#) | Full Text: [PDF](#)(397 KB) IEEE CNF

☐ **7. Design and evaluation of alternative selection placement strategies in op continuous queries**

Jianjun Chen; DeWitt, D.J.; Naughton, J.F.;
Data Engineering, 2002. Proceedings. 18th International Conference on
26 Feb.-1 March 2002 Page(s):345 - 356
Digital Object Identifier 10.1109/ICDE.2002.994749
[AbstractPlus](#) | Full Text: [PDF](#)(399 KB) IEEE CNF

☐ **8. A query optimization for XML document views constructed by aggregatio**

Kato, H.; Oyama, K.; Yoshikawa, M.; Uemura, S.;
Database Applications in Non-Traditional Environments, 1999. (DANTE '99) Pr
International Symposium on
1999 Page(s):189 - 196
Digital Object Identifier 10.1109/DANTE.1999.844959
[AbstractPlus](#) | Full Text: [PDF](#)(212 KB) IEEE CNF

☐ **9. Global predicate analysis and its application to register allocation**

Gillies, D.M.; Ju, D.R.; Johnson, R.; Schlansker, M.;
Microarchitecture, 1996. MICRO-29. Proceedings of the 29th Annual IEEE/ACI
Symposium on
2-4 Dec. 1996 Page(s):114 - 125
Digital Object Identifier 10.1109/MICRO.1996.566455
[AbstractPlus](#) | Full Text: [PDF](#)(1088 KB) IEEE CNF

☐ **10. A functional clustering method for optimal access to complex domains in DBMS**

Cheiney, J.; Kiernan, G.;
Data Engineering, 1988. Proceedings. Fourth International Conference on
1-5 Feb. 1988 Page(s):394 - 401
Digital Object Identifier 10.1109/ICDE.1988.105483
[AbstractPlus](#) | Full Text: [PDF](#)(616 KB) IEEE CNF

☐ **11. Knowledge-based query optimization in an object-oriented database syst**

Sun, W.; Rish, N.; Ding, Y.; Meng, W.; Liu, C.;
Systems, Man, and Cybernetics, 1991. 'Decision Aiding for Complex Systems,
Proceedings., 1991 IEEE International Conference on
13-16 Oct. 1991 Page(s):1657 - 1662 vol.3
Digital Object Identifier 10.1109/ICSMC.1991.169931
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- ☐ 1. **Optimizing regular path expressions using graph schemas**
 Fernandez, M.; Suciu, D.;
 Data Engineering, 1998. Proceedings., 14th International Conference on
 23-27 Feb. 1998 Page(s):14 - 23
 Digital Object Identifier 10.1109/ICDE.1998.655753
[AbstractPlus](#) | Full Text: [PDF](#)(224 KB) IEEE CNF
- ☐ 2. **The MD-join: an operator for complex OLAP**
 Chatziantoniou, D.; Johnson, T.; Akinde, M.; Kim, S.;
 Data Engineering, 2001. Proceedings. 17th International Conference on
 2-6 April 2001 Page(s):524 - 533
 Digital Object Identifier 10.1109/ICDE.2001.914866
[AbstractPlus](#) | Full Text: [PDF](#)(800 KB) IEEE CNF
- ☐ 3. **Optimized parallel sets for data intensive applications**
 Eder, K.-H.; Boszormenyi, L.;
 Database and Expert Systems Applications, 1996. Proceedings., Seventh Inter
 Workshop on
 9-10 Sept. 1996 Page(s):185 - 192
 Digital Object Identifier 10.1109/DEXA.1996.558293
[AbstractPlus](#) | Full Text: [PDF](#)(772 KB) IEEE CNF
- ☐ 4. **Optimizing large join queries using a graph-based approach**
 Chiang Lee; Chi-Sheng Shih; Yaw-Huei Chen;
 Knowledge and Data Engineering, IEEE Transactions on
 Volume 13, Issue 2, March-April 2001 Page(s):298 - 315
 Digital Object Identifier 10.1109/69.917567
[AbstractPlus](#) | [References](#) | Full Text: [PDF](#)(544 KB) IEEE JNL
- ☐ 5. **A stochastic programming approach for range query retrieval problems**
 Xian Liu; Wilson Xu;
 Knowledge and Data Engineering, IEEE Transactions on
 Volume 14, Issue 4, July-Aug. 2002 Page(s):867 - 880
 Digital Object Identifier 10.1109/TKDE.2002.1019219
[AbstractPlus](#) | [References](#) | Full Text: [PDF](#)(681 KB) IEEE JNL
- ☐ 6. **Optimizing Path Expression Queries of XML Data**

Yang Li; Ping Yi; Qiyang Li;
e-Business Engineering, 2005. ICEBE 2005. IEEE International Conference on
12-18 Oct. 2005 Page(s):497 - 504
Digital Object Identifier 10.1109/ICEBE.2005.93
[AbstractPlus](#) | Full Text: [PDF\(576 KB\)](#) IEEE CNF

- ☐ **7. Automatic face recognition for film character retrieval in feature-length film**
Arandjelovic, O.; Zisserman, A.;
Computer Vision and Pattern Recognition, 2005. CVPR 2005. IEEE Computer Conference on
Volume 1, 20-25 June 2005 Page(s):860 - 867 vol. 1
Digital Object Identifier 10.1109/CVPR.2005.81
[AbstractPlus](#) | Full Text: [PDF\(784 KB\)](#) IEEE CNF

- ☐ **8. XML views as integrity constraints and their use in query translation**
Krishnamurthy, R.; Kaushik, R.; Naughton, J.F.;
Data Engineering, 2005. ICDE 2005. Proceedings. 21st International Conference on
5-8 April 2005 Page(s):693 - 704
Digital Object Identifier 10.1109/ICDE.2005.157
[AbstractPlus](#) | Full Text: [PDF\(248 KB\)](#) IEEE CNF

- ☐ **9. Analysis and algorithms for restart**
van Moorsel, A.P.A.; Wolter, K.;
Quantitative Evaluation of Systems, 2004. QEST 2004. Proceedings. First International Conference on the
27-30 Sept. 2004 Page(s):195 - 204
Digital Object Identifier 10.1109/QEST.2004.1348034
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- ☐ **10. Efficient computation of subqueries in complex OLAP**
Akinde, M.O.; Bohlen, M.H.;
Data Engineering, 2003. Proceedings. 19th International Conference on
5-8 March 2003 Page(s):163 - 174
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Lee, S.D.; De Raedt, L.;
Data Mining, 2003. ICDM 2003. Third IEEE International Conference on
19-22 Nov. 2003 Page(s):147 - 154
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- ☐ **12. Effective schema-based XML query optimization techniques**
Guoren Wang; Mengchi Liu; Yu, J.X.; Bing Sun; Ge Yu; Jianhua Lv; Hongjun Li
Database Engineering and Applications Symposium, 2003. Proceedings. Seventh
16-18 July 2003 Page(s):230 - 235
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- ☐ **13. Optimized translation of XPath into algebraic expressions parameterized containing navigational primitives**
Helmer, S.; Kanne, C.-C.;
Web Information Systems Engineering, 2002. WISE 2002. Proceedings of the International Conference on
12-14 Dec. 2002 Page(s):215 - 224
Digital Object Identifier 10.1109/WISE.2002.1181658
[AbstractPlus](#) | Full Text: [PDF\(339 KB\)](#) IEEE CNF

- ☐ **14. Query processing with description logic ontologies over object-wrapped**
Peim, M.; Franconi, E.; Paton, N.W.; Goble, C.A.;

Scientific and Statistical Database Management, 2002. Proceedings. 14th International Conference on

24-26 July 2002 Page(s):27 - 36

Digital Object Identifier 10.1109/SSDM.2002.1029703

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15. Ad hoc OLAP: expression and evaluation

Chatziantoniou, D.;

Data Engineering, 1999. Proceedings., 15th International Conference on 23-26 March 1999 Page(s):250

Digital Object Identifier 10.1109/ICDE.1999.754930

[AbstractPlus](#) | Full Text: [PDF\(20 KB\)](#) IEEE CNF



16. Evaluation of ad hoc OLAP: in-place computation

Chatziantoniou, D.;

Scientific and Statistical Database Management, 1999. Eleventh International 28-30 July 1999 Page(s):34 - 43

Digital Object Identifier 10.1109/SSDM.1999.787619

[AbstractPlus](#) | Full Text: [PDF\(148 KB\)](#) IEEE CNF



17. Algebraic XML construction in Natix

Fiebig, T.; Moerkotte, G.;

Web Information Systems Engineering, 2001. Proceedings of the Second International Conference on

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1 [Research sessions: statistics: Conditional selectivity for statistics on query](#)


[expressions](#)

Nicolas Bruno, Surajit Chaudhuri

 June 2004 **Proceedings of the 2004 ACM SIGMOD international conference on Management of data**

Publisher: ACM Press

 Full text available: pdf(355.41 KB) Additional Information: [full citation](#), [abstract](#), [references](#)

Cardinality estimation during query optimization relies on simplifying assumptions that usually do not hold in practice. To diminish the impact of inaccurate estimates during optimization, statistics on query expressions (SITs) have been previously proposed. These statistics help directly model the distribution of tuples on query sub-plans. Past work in statistics on query expressions has exploited view matching technology to harness their benefits. In this paper we argue against such an approach ...

2 [Query execution and optimization: Weighted hypertree decompositions and optimal query plans](#)



Francesco Scarcello, Gianluigi Greco, Nicola Leone

 June 2004 **Proceedings of the twenty-third ACM SIGMOD-SIGACT-SIGART symposium on Principles of database systems PODS '04**

Publisher: ACM Press

 Full text available: pdf(217.58 KB) Additional Information: [full citation](#), [abstract](#), [references](#)

Hypertree width [22, 25] is a measure of the degree of cyclicity of hypergraphs. A number of relevant problems from different areas, e.g., the evaluation of conjunctive queries in database theory or the constraint satisfaction in AI, are tractable when their underlying hypergraphs have bounded hypertree width. However, in practical contexts like the evaluation of database queries, we have more information besides the structure of queries. For instance, we know the number of tuples in relations, ...

3 [Experiences building the open OODB query optimizer](#)



José A. Blakeley, William J. McKenna, Goetz Graefe

 June 1993 **ACM SIGMOD Record , Proceedings of the 1993 ACM SIGMOD international conference on Management of data SIGMOD '93**, Volume 22 Issue 2

Publisher: ACM Press

 Full text available: pdf(1.33 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper reports our experiences building the query optimizer for TI's Open OODB system. To the best of our knowledge, it is the first working object query optimizer to be based on a complete extensible optimization framework including logical algebra, execution algorithms, property enforcers, logical transformation rules, implementation rules, and selectivity and cost estimation. Our algebra incorporates a new materialize operator with its corresponding logical transform ...

4 Industrial sessions: beyond relational tables: Garlic: a new flavor of federated query processing for DB2



Vanja Josifovski, Peter Schwarz, Laura Haas, Eileen Lin

June 2002 **Proceedings of the 2002 ACM SIGMOD international conference on Management of data**

Publisher: ACM Press

Full text available: [pdf\(1.05 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In a large modern enterprise, information is almost inevitably distributed among several database management systems. Despite considerable attention from the research community, relatively few commercial systems have attempted to address this issue. This paper describes new technology that enables clients of IBM's DB2 Universal Database to access the data and specialized computational capabilities of a wide range of non-relational data sources. This technology, based on the Garlic prototype deve ...

5 Optimizing multiple dimensional queries simultaneously in multidimensional databases

Weifa Liang, Maria E. Orlowska, Jeffrey X. Yu

February 2000 **The VLDB Journal — The International Journal on Very Large Data Bases**, Volume 8 Issue 3-4

Publisher: Springer-Verlag New York, Inc.

Full text available: [pdf\(269.57 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

Some significant progress related to multidimensional data analysis has been achieved in the past few years, including the design of fast algorithms for computing datacubes, selecting some precomputed group-bys to materialize, and designing efficient storage structures for multidimensional data. However, little work has been carried out on multidimensional query optimization issues. Particularly the response time (or evaluation cost) for answering several related dimensional queries simultaneous ...

Keywords: Data warehousing, MDDBs, Multiple dimensional query optimization, OLAP, Query modeling

6 Research sessions: continuous queries and streams: Rate-based query optimization for streaming information sources



Stratis D. Viglas, Jeffrey F. Naughton

June 2002 **Proceedings of the 2002 ACM SIGMOD international conference on Management of data**

Publisher: ACM Press

Full text available: [pdf\(1.11 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Relational query optimizers have traditionally relied upon table cardinalities when estimating the cost of the query plans they consider. While this approach has been and continues to be successful, the advent of the Internet and the need to execute queries over streaming sources requires a different approach, since for streaming inputs the cardinality may not be known or may not even be knowable (as is the case for an unbounded stream.) In view of this, we propose shifting from a cardinality-ba ...

7 Multiway spatial joins

Nikos Mamoulis, Dimitris Papadias

December 2001 **ACM Transactions on Database Systems (TODS)**, Volume 26 Issue 4

Publisher: ACM Press

Full text available: pdf(2.04 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Due to the evolution of Geographical Information Systems, large collections of spatial data having various thematic contents are currently available. As a result, the interest of users is not limited to simple spatial selections and joins, but complex query types that implicate numerous spatial inputs become more common. Although several algorithms have been proposed for computing the result of pairwise spatial joins, limited work exists on processing and optimization of *multiway spatial join* ...

Keywords: *Multiway joins, query processing, spatial joins*

8 Research sessions: query processing I: Exploiting statistics on query expressions for optimization

Nicolas Bruno, Surajit Chaudhuri

June 2002 **Proceedings of the 2002 ACM SIGMOD international conference on Management of data**

Publisher: ACM Press

Full text available: pdf(1.33 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Statistics play an important role in influencing the plans produced by a query optimizer. Traditionally, optimizers use statistics built over base tables and assume independence between attributes while propagating statistical information through the query plan. This approach can introduce large estimation errors, which may result in the optimizer choosing inefficient execution plans. In this paper, we show how to extend a generic optimizer so that it also exploits statistics built on expression ...

9 Research sessions: XML I: StatiX: making XML count

Juliana Freire, Jayant R. Haritsa, Maya Ramanath, Prasan Roy, Jérôme Siméon

June 2002 **Proceedings of the 2002 ACM SIGMOD international conference on Management of data**

Publisher: ACM Press

Full text available: pdf(1.13 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The availability of summary data for XML documents has many applications, from providing users with quick feedback about their queries, to cost-based storage design and query optimization. *StatiX* is a novel XML Schema-aware statistics framework that exploits the structure derived by regular expressions (which define elements in an XML Schema) to pinpoint places in the schema that are likely sources of *structural skew*. As we discuss below, this information can be used to build concisely ...

10 Multiple-granularity interleaving for piggyback query processing

Brian Dunkel, Qiang Zhu, Wing Lau, Suyun Chen

November 1999 **Proceedings of the 1999 conference of the Centre for Advanced Studies on Collaborative research**

Publisher: IBM Press

Full text available: pdf(353.91 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Piggyback query processing is a new technique, described in [24], intended to perform

additional useful computation (e.g., database statistics collection) during normal query processing, taking full advantage of data resident in main memory. Different types of beneficial piggybacking have been identified and studied, but how to efficiently integrate piggyback operations with a given user query is still an open issue. In this paper, we propose a technique of multiple-granularity interleaving to effi ...

Keywords: database statistics, multiple-granularity interleaving, piggybacking, query optimization, query processing

11 XML query processing I: Dynamic XML documents with distribution and replication



Serge Abiteboul, Angela Bonifati, Grégory Cobéna, Ioana Manolescu, Tova Milo

June 2003 **Proceedings of the 2003 ACM SIGMOD international conference on Management of data**

Publisher: ACM Press

Full text available: pdf(209.06 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citings](#), [index terms](#)

The advent of XML as a universal exchange format, and of Web services as a basis for distributed computing, has fostered the apparition of a new class of documents: *dynamic XML documents*. These are XML documents where some data is given explicitly while other parts are given only intensionally by means of embedded calls to web services that can be called to generate the required information. By the sole presence of Web services, dynamic documents already include inherently some form of di ...

12 Building knowledge base management systems

John Mylopoulos, Vinay Chaudhri, Dimitris Plexousakis, Adel Shrufi, Thodoros Topologlou

December 1996 **The VLDB Journal — The International Journal on Very Large Data Bases**, Volume 5 Issue 4

Publisher: Springer-Verlag New York, Inc.

Full text available: pdf(403.22 KB) Additional Information: [full citation](#), [abstract](#), [citings](#), [index terms](#)

Advanced applications in fields such as CAD, software engineering, real-time process control, corporate repositories and digital libraries require the construction, efficient access and management of large, shared knowledge bases. Such knowledge bases cannot be built using existing tools such as expert system shells, because these do not scale up, nor can they be built in terms of existing database technology, because such technology does not support the rich representational structure and infer ...

Keywords: Concurrency control, Constraint enforcement, Knowledge base management systems, Rule management, Storage management

13 MIL primitives for querying a fragmented world

Peter A. Boncz, Martin L. Kersten

October 1999 **The VLDB Journal — The International Journal on Very Large Data Bases**, Volume 8 Issue 2

Publisher: Springer-Verlag New York, Inc.

Full text available: pdf(261.36 KB) Additional Information: [full citation](#), [abstract](#), [citings](#), [index terms](#)

In query-intensive database application areas, like decision support and data mining, systems that use vertical fragmentation have a significant performance advantage. In order to support relational or object oriented applications on top of such a fragmented data model, a flexible yet powerful intermediate language is needed. This problem has been successfully tackled in Monet, a modern extensible database kernel developed by our group. We focus on the design choices made in the Monet interpreter ...

Keywords: Database systems, Main-memory techniques, Query languages, Query optimization, Vertical fragmentation

14 On indexing mobile objects



George Kollios, Dimitrios Gunopulos, Vassilis J. Tsotras

May 1999 **Proceedings of the eighteenth ACM SIGMOD-SIGACT-SIGART symposium on Principles of database systems**

Publisher: ACM Press

Full text available: pdf(1.57 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

15 Data transformation and duplicate detection: Execution of data mappers



Paulo Carreira, Helena Galhardas

June 2004 **Proceedings of the 2004 international workshop on Information quality in information systems**

Publisher: ACM Press

Full text available: pdf(158.21 KB) Additional Information: [full citation](#), [abstract](#), [references](#)

Data mappers are essential operators for implementing data transformations supporting schema mapping and integration scenarios such as *legacy data migration*, ETL processes for *data warehousing*, *data cleaning* activities, and *business integration* initiatives. Despite their widespread use, no formalization of this important operation has been proposed so far. In this paper we propose the data mapper operator as an extension to the relational algebra. We supply a set of algebraic ...

16 Data integration and sharing I: Capturing both types and constraints in data integration



Michael Benedikt, Chee-Yong Chan, Wenfei Fan, Juliana Freire, Rajeev Rastogi

June 2003 **Proceedings of the 2003 ACM SIGMOD international conference on Management of data**

Publisher: ACM Press

Full text available: pdf(690.62 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We propose a framework for integrating data from multiple relational sources into an XML document that both conforms to a given DTD and satisfies predefined XML constraints. The framework is based on a specification language, AIG, that extends a DTD by (1) associating element types with semantic attributes (inherited and synthesized, inspired by the corresponding notions from Attribute Grammars), (2) computing these attributes via parameterized SQL queries over multiple data sources, and (3) inc ...

17 Optimization of dynamic query evaluation plans



Richard L. Cole, Goetz Graefe

May 1994 **ACM SIGMOD Record , Proceedings of the 1994 ACM SIGMOD international conference on Management of data SIGMOD '94**, Volume 23 Issue 2

Publisher: ACM Press

Full text available: pdf(1.45 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Traditional query optimizers assume accurate knowledge of run-time parameters such as selectivities and resource availability during plan optimization, i.e., at compile time. In reality, however, this assumption is often not justified. Therefore, the "static" plans produced by traditional optimizers may not be optimal for many of their actual run-time invocations. Instead, we propose a novel optimization model that assigns the bulk of the optimization effort to compile-time and ...

18 Research sessions: data integration: Adapting to source properties in processing data integration queries



Zachary G. Ives, Alon Y. Halevy, Daniel S. Weld

June 2004 **Proceedings of the 2004 ACM SIGMOD international conference on Management of data**

Publisher: ACM Press

Full text available: pdf(197.27 KB) Additional Information: [full citation](#), [abstract](#), [references](#)

An effective query optimizer finds a query plan that exploits the characteristics of the source data. In data integration, little is known in advance about sources' properties, which necessitates the use of *adaptive* query processing techniques to adjust query processing on-the-fly. Prior work in adaptive query processing has focused on compensating for delays and adjusting for mis-estimated cardinality or selectivity values. In this paper, we present a generalized architecture for adaptiv ...

19 GPGPU: general purpose computation on graphics hardware



David Luebke, Mark Harris, Jens Krüger, Tim Purcell, Naga Govindaraju, Ian Buck, Cliff Woolley, Aaron Lefohn

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available: pdf(63.03 MB) Additional Information: [full citation](#), [abstract](#)

The graphics processor (GPU) on today's commodity video cards has evolved into an extremely powerful and flexible processor. The latest graphics architectures provide tremendous memory bandwidth and computational horsepower, with fully programmable vertex and pixel processing units that support vector operations up to full IEEE floating point precision. High level languages have emerged for graphics hardware, making this computational power accessible. Architecturally, GPUs are highly parallel s ...

20 Research papers: optimization: RankSQL: query algebra and optimization for relational top-k queries



Chengkai Li, Kevin Chen-Chuan Chang, Ihab F. Ilyas, Sumin Song

June 2005 **Proceedings of the 2005 ACM SIGMOD international conference on Management of data**

Publisher: ACM Press

Full text available: pdf(741.54 KB) Additional Information: [full citation](#), [abstract](#), [references](#)

This paper introduces RankSQL, a system that provides a systematic and principled framework to support efficient evaluations of ranking (*top-k*) queries in relational database systems (RDBMS), by extending relational algebra and query optimization. Previously, *top-k* query processing is studied in the middleware scenario or in RDBMS in a "piecemeal" fashion, *i.e.*, focusing on specific operator or sitting outside the core of query engines. In contrast, we aim to support ranking ...

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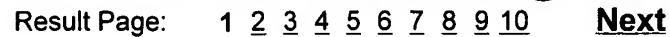
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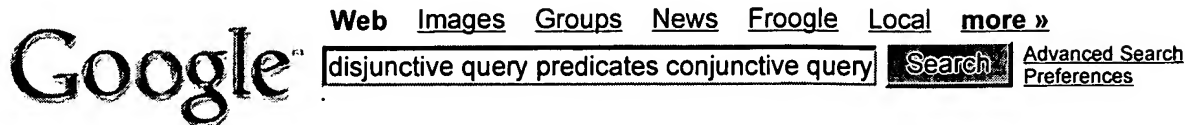
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query. For instance, a range **predicate** (1. $<x<$, 4) can be simulated by a **disjunctive predicate**. ($x = 2$, $x = 3$) provided that x is an integer type. In ...
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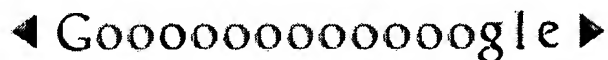
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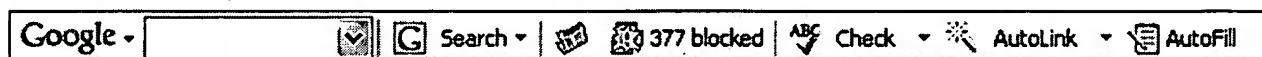
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